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Recent Developments in Soviet Amphibious Forces

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An Intelligence Assessment

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IA 85-10057
September 1985*

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An Intelligence Assessment

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This paper was prepared by [redacted] Office of
Soviet Analysis, and [redacted]

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[redacted] Comments and queries may be addressed
to the Chief, Strategic Forces Division, SOVA, on
[redacted]

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Key Judgments

*Information available
as of 31 May 1985
was used in this report.*

Although the Soviet naval infantry has in recent years somewhat enhanced its ability to carry out its primary mission of conducting amphibious assaults near the Soviet Union during a general war, much room for improvement remains. The Soviets recognize that there are shortcomings, but they are not moving rapidly to overcome major deficiencies in force structure and training. In spite of these reservations, the nature of its large exercises at home and its activities abroad leads us to believe that the Soviet Navy is exploring concepts for conducting amphibious operations in distant areas. Evidence also indicates a new willingness on Moscow's part to selectively use small contingents of naval infantry to protect Soviet interests in the Third World.

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With the improvements made over the last five years, the naval infantry has attained a modest capability for conducting landings in wartime or for operating against better armed countries in the Third World. Before 1980 its wartime capabilities were limited by a lack of organic fire support and inadequate tactics and training under realistic conditions. These constraints also limited its utility as an effective intervention force, as did severe restrictions on providing air support and sufficient assault lift for operations distant from the USSR.

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Since 1979 the Soviets have reorganized the naval infantry and introduced new weapons into the force, substantially increasing its potential combat effectiveness. To incorporate the new weapons in their organization, all three regiments in the western USSR have expanded to brigades, and the Pacific Fleet Division has added new combat support units. Our analysis indicates that the new weapons have improved the naval infantry's firepower and maneuverability and that the naval infantry has increased its wartime manning from 14,000 to about 20,000 troops.

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These improvements also have added somewhat to the naval infantry's limited ability to conduct operations in the Third World, and the Soviets are apparently working to overcome shortcomings that limit the naval infantry's usefulness as an intervention force:

- Lack of adequate air support beyond the range of aircraft based in the Soviet Union. Participation by a Kiev-class aircraft carrier, a Moskva-class helicopter cruiser, and an Ivan Rogov-class amphibious transport dock in ZAPAD-81, and development of a naval assault helicopter suggest that the Soviets are exploring ways to provide ship-based air support.

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- Lack of experience conducting landings outside the Soviet Union. Three joint amphibious exercises were conducted between 1980 and 1984 in the Mediterranean Sea, the Indian Ocean, and the South China Sea.

We have seen, however, no further indications of a vigorous program to improve the naval infantry's intervention capability.

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In spite of the progress made since 1979, we continue to see significant weaknesses that could make the naval infantry vulnerable in operations against well-prepared opponents:

- Slow construction of amphibious ships, indicating the Soviets give this mission a low priority.

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Until the naval infantry overcomes these deficiencies, its effectiveness in wartime landings and as an intervention force against prepared and capable opposition will remain modest.

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Soviet naval infantrymen in formation.

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Recent Developments in Soviet Amphibious Forces

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Introduction

We know from imagery analysis and Soviet press statements that the naval infantry was reconstituted during the mid-1960s, after having been disbanded in the early 1950s. Soviet writings indicated that amphibious operations continued to be a part of wartime doctrine; when there was no naval infantry, the ground forces assumed the role of leading an assault. After at least one unsuccessful amphibious exercise that utilized ground forces in the initial assault, the military leadership apparently recognized the need for troops trained in spearheading amphibious assaults along the maritime flanks of the USSR, should war occur on the Eurasian continent. Despite changes in Western military capabilities and improvements in other Soviet military forces, the naval infantry, in our estimation, remained relatively static in size and capabilities through the 1970s.

Because of this lack of development, the naval infantry in the late 1970s would have faced major problems in carrying out its mission against well-organized Western opposition. Its principal limitations were the almost total lack of organic fire support and the persistent use of simplistic tactics in unrealistic training conditions. Also limiting the naval infantry's utility in operations distant from the USSR were severe deficiencies in air support and assault lift. Despite major improvements in its capabilities since 1979, we believe the naval infantry still has only limited prospects of success in landings against determined opposition.

This paper assesses the capabilities and outlook for Soviet amphibious forces.² It reviews significant changes in the naval infantry's force structure and exercises since 1979 and assesses their effect on Soviet

amphibious capabilities in wartime. It also examines these developments in conjunction with the naval infantry's activity outside home waters for their impact on its effectiveness as an intervention force. In addition, the paper provides evidence of problems that partially offset the improvements to the naval infantry's combat effectiveness.

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Mission

Soviet writings indicate that the naval infantry's major function is conducting amphibious operations in support of regular ground force units. To a lesser extent, the naval infantry is also tasked to provide personnel for deployed amphibious ships, to secure naval facilities, and to defend coastal areas.

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The Soviet *Naval Infantryman Reference Manual* identifies four types of amphibious operations:

- A strategic landing would create a new area for military operations, requiring several divisions and large-scale air and naval support.
- An operational landing would assist friendly forces in coastal regions and require a regimental- or brigade-size naval infantry force with follow-on ground troops.
- A tactical landing would be directed against specific, vulnerable objectives in an enemy's flank or rear, requiring at least a naval infantry battalion.
- A specialized small unit mission could range from a diversionary raid to reconnaissance and sabotage, with the nature of the mission determining the number of naval infantrymen involved.

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We have yet to see the naval infantry attempt an exercise more complex than an operational landing. Such landings, however, have become standard features of regularly scheduled Warsaw Pact combined-arms exercises, such as ZAPAD-81 and SHIELD-82. In these exercises, the naval infantry's initial landing force was probably a reinforced naval rifle battalion

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Soviet Naval Infantry Units



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(three rifle companies with attached combat support—tanks, artillery, air defense). Once the landing area was secure, regular ground force troops came ashore to conduct offensive operations.

Analysis of overhead photography since 1980 indicates that three naval infantry regiments in the western USSR have expanded to brigades, and the Pacific Fleet Division has added new units to its structure (see table). We estimate that the wartime strength of each brigade now is at least 3,000 troops while the division has increased to about 9,000. The reorganization and introduction of additional weapons is the first significant expansion of the naval infantry since it was reinstated in the mid-1960s. These changes are consistent with the general trend toward increased firepower and maneuverability within Soviet motorized rifle and tank divisions.³

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Reorganization and Equipment Improvements

we have identified naval infantry units subordinate to each of the four Soviet fleets (see map). Before 1980 each of the three fleets based in the western USSR—the Northern, the Baltic, and the Black Sea Fleets—had a regiment with a wartime strength of approximately 2,000 troops organized into three naval rifle battalions, a tank battalion, and combat and service support units. The Pacific Fleet Division had a wartime strength of about 8,000 troops assigned to three naval rifle regiments, a tank regiment, and combat and service support units.

is the first significant expansion of the naval infantry since it was reinstated in the mid-1960s. These changes are consistent with the general trend toward increased firepower and maneuverability within Soviet motorized rifle and tank divisions.³

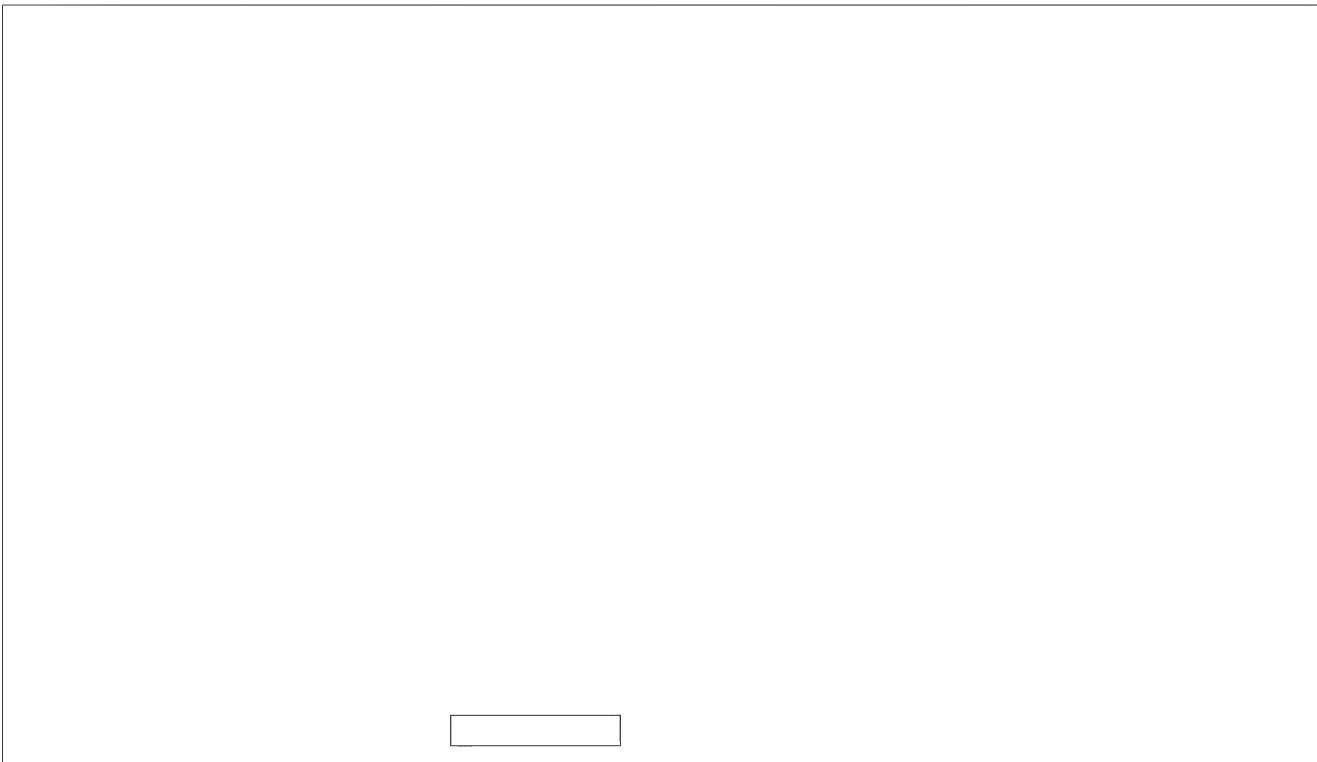
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The Western Fleets' Brigades

The most dramatic changes have occurred in the independent regiments of the western fleets. Because overhead imagery indicates that there are divisional and nonstandard combat support units with the regiments, we believe these units are better described as brigades. Changes we have observed over the last five years include:

- Expansion of the number of rifle battalions assigned to each brigade.
- Increased number of tanks, armored personnel carriers (APCs), air defense weapons, and multiple rocket launchers (MRLs).
- Acquisition of more modern types of weapons as well as weapons not previously held by the naval infantry.
- Probable formation of a second brigade-size unit for the Northern Fleet. [redacted]

accurate has reported that the brigades have four rifle battalions, although he indicated that they are not fully manned in peacetime. [redacted]

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Each battalion has increased its APCs from 31 to 41. These vehicles will transport crew-served antitank and antipersonnel weapons for use at the battalion and company levels, as they have in motorized rifle regiments with increased inventories of APCs. The Northern Fleet brigade at Pechenga appears to be converting from the BTR-60 APC to the MT-LB, which is better suited to terrain in Nordic regions and is found in Soviet Army divisions in the Leningrad Military District. The brigades in the Baltic and Black Seas continue to rely on the BTR-60. A battery of truck-mounted 120-mm mortars also has been added to each naval rifle battalion. [redacted]

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[redacted] we believe that there have been extensive changes in the rifle battalions of the brigades. We estimate each brigade now consists of four, rather than three, rifle battalions with each battalion operating 41 APCs.

[redacted] reporting has proved

The introduction of artillery and antitank battalions has significantly increased organic firepower. [redacted]

[redacted] each brigade has received a battalion of 18 self-propelled 122-mm howitzers and a battalion of 12 towed 100-mm antitank guns and nine

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antitank guided missiles (ATGMs).⁴ These weapons are in addition to the MRLs and tanks that had been the primary fire-support weapons within the regiments. [redacted]

To further increase firepower, the naval infantry has reorganized the tank battalion subordinate to each brigade. Before reorganization, the tank battalion had two companies with a total of 20 medium tanks and one company of 11 to 15 light tanks. There are now two tank battalions in each brigade—one equipped with 40 T-55 medium tanks and another with 22 PT-76 light tanks. [redacted]

We have observed [redacted] increased numbers of air defense weapons, MRLs, and mortars in the brigades. Each now has an air defense battalion of 16 ZSU-23/4s and eight SA-13s, an MRL battalion with six BM-21s and six of the newer ZIL-type, and a battery of nine Vasilek automatic mortars. [redacted]

Despite the expansion of the western units into brigades, the only major change in the service support assets [redacted] has been the introduction of a tank-launched bridge in the engineer company. Thus, we believe that the naval infantry has not improved its modest capability for sustained combat operations ashore. [redacted]

Since October 1983 we have seen [redacted] the Soviets forming a unit at Serebryanskiy near Murmansk; the unit's equipment inventory suggests a naval infantry brigade. Although the unit was still incomplete in May 1985, the Soviets had brought in equipment for four rifle battalions, two tank battalions, and an artillery battalion, as well as for several support units. They have not, however, built the facilities necessary to support a naval infantry brigade's peacetime operations. Furthermore, the nearest naval facility is a submarine dispersal base on the coast 15 kilometers north of the unit, but it does not have the capability for loading amphibious ships. Because of the unusual location and lack of support facilities, we speculate that this unit could serve as a mobilization base, a cadre brigade, or an equipment

⁴ This is the standard mix of antitank weapons identified in Soviet category I and II motorized rifle divisions. [redacted]

set for resupply of the brigade at Pechenga in wartime. Alternatively, it could eventually become the second fully operational brigade in the Northern Fleet. The unit's final configuration is not yet apparent and may not be for some time. The unusual development of the installation has created a high degree of uncertainty in assessing the Navy's intentions for the new unit (for additional details see appendix B). [redacted]

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The Pacific Fleet Division

Imagery of the Pacific Fleet Division shows that its combat effectiveness also has been improved by the addition of more modern equipment. Although the changes have not been as extensive as those in the brigades in the western fleets, new fire-support and air defense units have been added. In addition, some changes have occurred in the division's regiments, but they have not been expanded to brigades. [redacted]

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Through the 1970s, the Pacific Fleet Division had a battalion of 31 assault guns and a battalion of 18 MRLs for divisional fire support. It now has an artillery regiment composed of two battalions of self-propelled 122-mm howitzers and the MRL battalion, in addition to a separate antitank battalion composed of twelve 100-mm antitank guns and nine ATGMs.⁵ Air defense for the division has been improved by the addition of a battalion of SA-8 surface-to-air missiles (SAMs) with 12 transporter-erector-launchers (TELs). [redacted]

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[redacted] one regiment has replaced its BTR-60s with the BMP infantry fighting vehicle (IFV). An improved 82-mm mortar also has been introduced into the regiments, as well as additional 120-mm mortars. Nevertheless, we have not identified the changes in regimental structure that would indicate an expansion to brigades. [redacted]

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Manpower

These changes to naval infantry units since 1979 have increased their wartime manning requirements. We believe that each naval infantry brigade's wartime

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⁵ Between June 1981 and July 1983, this unit contained one self-propelled howitzer battalion and one towed battalion. [redacted]

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strength is at least 3,000 personnel. This estimate is reached by adding the following to the previous manning estimate of 2,000:

- New antitank and artillery battalions.
- Expansion of the air defense and MRL batteries into battalions.
- Some expansion in the maneuver battalions and reconnaissance company.
- A fourth infantry battalion. [redacted]

Similarly, we now estimate the Pacific Fleet Division's wartime strength will be nearly 9,000, rather than 8,150, men. This increase results from:

- The addition of air defense, artillery, and antitank battalions.
- Some expansion in the existing maneuver and support units. [redacted]

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Peacetime manning estimates of naval infantry units are based on training and maintenance activity levels

Even though all units appear to possess most major equipment, the level and frequency of activity is higher in the brigades than in the division. Consequently, we believe that the peacetime manning is at least 80 percent of wartime strength for the brigades, approximately 60 percent for the division.

Measuring Combat Effectiveness

Using the weighted equipment value (WEV) methodology, we assessed the impact of these improvements on the naval infantry's potential combat effectiveness.⁶ Comparisons of WEV scores for 1979 and 1984 illustrate the impact of weapon acquisitions. Changes in combat equipment that we have identified on imagery have increased overall scores for the naval infantry by 35 percent. Improvements in organic firepower result primarily from the addition of artillery, antitank guns, and medium tanks. Maneuverability has been enhanced by increased numbers of APCs and tracked weapon systems. During the period 1979-84, improvements in WEV scores for the naval infantry were as follows:

Weapon Category	Total Force	Percent	
		Pacific Fleet Division	Western Fleet Brigades
Artillery	171	95	350 ^a
Tanks	20	0	100
APC/IFV	49	69	33
All weapons	35	24	57

^a The rather dramatic figures for the brigades reflect additions to very small inventories held before 1980, whereas the increases in the division appear more modest due to larger holdings before the reorganization.

⁶ Weighted equipment value methodology has been developed by the Defense Intelligence Agency using data in the Land Armaments and Manpower Model (LAMM). The technique is a modification of a system generated by the US Army's Concept and Analysis Agency. In the WEV methodology, weapons systems are assigned scores based on their firepower, mobility, and survivability. These scores are then normalized to the most prevalent system within the weapon category. The WEV score for a particular weapon represents its potential—not actual—performance under combat conditions. The WEV scores for the naval infantry include only major firepower weapons.

Amphibious Exercises

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indicate that the Soviets are using more sophisticated amphibious warfare tactics and have become more adept in organizing a landing operation. The Soviets include amphibious operations in their major training exercises, demonstrating the importance amphibious assaults have in their planning for a general war on the Eurasian continent. The landing made during ZAPAD-81 suggests Soviet interest in developing naval concepts for Third World intervention.

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Exercises in the Baltic have provided the most complete evidence of improved Soviet capabilities in amphibious warfare. The amphibious landing during ZAPAD-81, held in September 1981, was the largest that the Soviets had held since World War II. Information on landing exercises in the other fleets is not as extensive, but we believe the Baltic exercises are representative of developments throughout the force.

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During the exercises in the Baltic since 1979, the Soviet Navy appears to have become more adept at:

- Integrating motorized rifle troops into a landing force.
- Employing air-cushion vehicles (ACVs) and landing craft (LCMs).
- Using merchant ships to support landings.

Although we noted some of these improvements in exercises preceding ZAPAD-81, they were synthesized into a single operation only during that exercise.

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The role of motorized rifle troops in amphibious landings may be undergoing modification. Since 1979, Soviet ground force troops have joined naval infantry troops in the initial assault phase of amphibious exercises, rather than landing only after the beachhead was secured. The number of army troops landing in the assault waves has grown from about two platoons to a battalion—the size of the force observed during ZAPAD-81.

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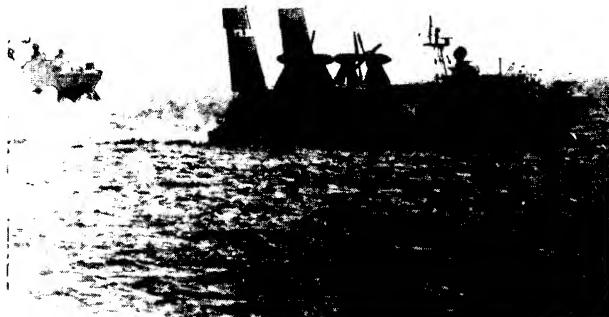
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Air cushion vehicles during ZAPAD-81 landing. [redacted]



Helicopters land troops in initial wave. [redacted]

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Reducing the vulnerability of their assault troops en route to the beach and during the initial combat ashore apparently is a major concern for the Soviets. According to Western naval surveillance of exercises since 1979, the naval infantry has emphasized using ACVs and LCMs in the first assault wave. ACVs are capable of moving at high speeds over mines and other obstacles, and of landing troops directly on the beach, while LCMs can transport heavy weapons. During exercises before 1979, for example, ACVs were seen bringing in special-purpose teams before the first wave or landing troops in areas away from the main target to protect the assault force's flanks. During ZAPAD-81, special-purpose forces were landed from helicopters before the main assault, while ACVs brought in the first assault wave. Surveillance reports of the exercise also noted that, during ZAPAD-81, LCMs were included in the first wave and probably landed tanks to provide additional fire support on the beach. During the earlier exercises, LCMs were used principally during the follow-on landing to bring combat and support equipment and troops ashore from merchant ships. During these exercises, tanks and APCs used in the assault disembarked from landing ships close to shore or from ACVs. [redacted]

the movement of landing ships, we expect the Soviets will continue to evaluate this technique. Senior naval officers have written in the Soviet Navy journal, *Morskoy Sbornik*, that the night landing by the British in the Falklands campaign was a major reason for the success of the assault. [redacted]

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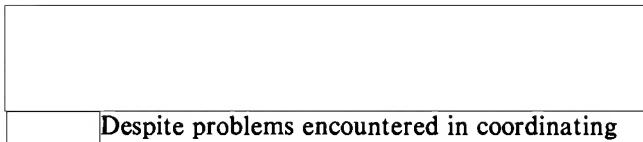
Besides improving ship-to-shore movement during the assault, the larger number of civilian cargo ships in ZAPAD-81 suggests that the Soviets feel greater confidence in managing the support operation during the follow-on landing. During previous amphibious exercises, observers saw a maximum of two commercial cargo ships. During ZAPAD-81, there were five, including one roll-on/roll-off (RO/RO) ship. Naval infantry troops, who were probably to assist in directing the loading and unloading operations, were observed aboard the ships. Landing craft, and possibly ACVs, were used to transfer men and equipment from merchant ships to shore. [redacted]

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Two unique features of ZAPAD-81 may indicate that the Soviets are exploring possibilities for enhancing their intervention capabilities. According to our records, ZAPAD-81 was the first time a Kiev-class aircraft carrier (CVHG) or a Moskva-class helicopter cruiser (CHG) operated in support of an amphibious exercise. Their participation was unusual because, [redacted]

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Despite problems encountered in coordinating [redacted]

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according to our understanding of Soviet naval exercises, such ship classes probably would not be available to support amphibious landings during a general war, but would instead be used in an antisubmarine warfare role. [redacted]

The second unique feature—which we do not believe reflects Soviet plans for a general war—is that this was the first exercise in which amphibious ships from all four fleets participated. Landing ships from the Northern, Black Sea, and Pacific Fleets with naval infantry aboard were identified as they entered the Baltic. According to Soviet writings, each fleet's amphibious forces have missions to support combined-arms campaigns in their respective wartime theaters of operation. Because the fleets are widely separated and have specific missions in a general war, we would not expect amphibious forces to support wartime operations outside their own fleet areas. ZAPAD-81 therefore provided the kind of training in combined fleet operations that would be required only for power projection during peacetime. [redacted]

Out-of-Area Operations

Soviet landing ships and naval infantry deploy routinely to the Indian Ocean, South China Sea, Mediterranean Sea, and to the Atlantic Ocean off West Africa. Generally, one landing ship operates in each area. [redacted]

[redacted] the Soviet Navy is willing to use amphibious ships and naval infantry in more visible roles in the Third World. The most significant of these activities were landing exercises conducted in the South China Sea, the Indian Ocean, and the Mediterranean Sea. Naval infantry security units have also been established at Dehalak' Deset (Dahlak Island) off Ethiopia and probably at Cam Ranh Bay, Vietnam. [redacted]

The three landings conducted by deployed Soviet amphibious forces were joint exercises—with South Yemen in 1980, with Syria in 1981, and with Vietnam in 1984. Our records indicate that the landings on

Socotra Island with the South Yemenis and near Haiphong with the Vietnamese were the first amphibious exercises conducted in these areas by the Soviets. These exercises indicate the resumption of periodic training outside the Soviet Union by the naval infantry that had been conducted in the Mediterranean during the 1960s. [redacted]

[redacted] a Soviet-South Yemeni force conducted a small-scale landing at Socotra Island in May 1980. The exercise involved the Ivan Rogov amphibious transport dock (LPD) and two ACVs from the Rogov. A South Yemeni landing ship and missile patrol boat also participated, but we do not know the exact nature of their operations. In a separate development, a company of Soviet naval infantry probably conducted a landing near Aden in 1981 without South Yemeni participation. Combat vehicles, probably belonging to the naval infantry, were photographed at the Soviet communications site at Salah-ad-Din. This activity may have represented a test of contingency plans for providing emergency security at the site. [redacted]

In the Mediterranean, the Soviets conducted a landing exercise on the Syrian coast in July 1981. The number of Soviet landing ships involved indicated that up to a battalion of naval infantry could have been landed. The Soviets probably hoped that the United States and Israel would read the exercise (even though we believe it was planned much earlier) as a sign of Soviet support for Syria during the crisis following Syria's installation of surface-to-air missiles in Lebanon. [redacted]

A battalion of Soviet naval infantry from the Pacific Fleet Division probably made up the assault force during an exercise conducted with the Vietnamese near Haiphong in April 1984. The Soviet force made the assault from an Ivan Rogov LPD and possibly one medium landing ship. The Vietnamese Navy provided combatants to support the landing and may have landed a small number of its marines. [redacted]

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Since 1980 the naval infantry has established two small security units at Soviet naval facilities overseas.

[redacted] the Soviets' Dahlak Island Naval Support Facility in March 1980 indicated that a small contingent, probably less than a company, of naval infantry had been stationed there, the first time the Soviet naval infantry has established a presence on a foreign shore.⁷ We believe the Soviets' uneasiness over the continuing conflict in Eritrea and the Ogaden region of Ethiopia may have prompted them to set up a security force on the island. The Navy established another naval infantry security unit in 1983 at its base at Cam Ranh Bay, Vietnam. We believe the deployments to Dahlak Island and Cam Ranh Bay show the Soviets' new willingness to selectively employ the naval infantry to support out-of-area operations.

⁷ A subsequent deployment to a Warsaw Pact country was observed [redacted] when elements of the Baltic Fleet brigade were identified at the Soviet naval facility in Swinoujscie, Poland. Since these elements were identified back in Baltiysk in February 1982, we believe their presence at the Soviet naval base was for security purposes when martial law was declared in Poland.

Amphibious Lift

The available evidence indicates that the Soviet Navy has only enough amphibious lift capacity to transport simultaneously about one-half to three-fourths of the naval infantry force and its equipment. This limitation is one of the major constraints on the naval infantry's ability to carry out wartime missions and large-scale interventions. Only the Baltic Fleet appears to have sufficient lift capacity to transport all its naval infantry and equipment simultaneously. Acquisition of equipment and personnel that began with the reorganization of the naval infantry has now exceeded the Black Sea Fleet's lift capacity, and the discrepancy between requirements and capacities of the Northern and Pacific Fleets has widened.

Despite this shortfall, production of amphibious shipping apparently continues to have low priority in the Soviet naval construction program. Only two Ivan Rogov-class LPDs have been built. After a break of almost two years, production of the Ropucha LST resumed at Gdansk, Poland, in 1983 and is the only

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amphibious ship under construction for the Soviet Navy. [redacted] production of ACVs has continued at about four to five units a year. The Soviets, however, are expanding their ACV production facilities at Leningrad and Feodosiya, possibly intending to increase their production rate. [redacted]

In our estimation, the Soviet Navy's aircraft carrier programs will have the greatest impact on its ability to carry out landings against significant opposition in the Third World. [redacted] the fourth, and we believe the last, Kiev-class carrier is fitting out. [redacted]

[redacted] the Soviets are well along in the production of a large carrier that could employ conventional takeoff and landing (CTOL) aircraft.⁸ We believe the Soviet Navy could have three large carriers operational by the end of the century. Our analysis of Soviet naval writings indicates that in a general war the Soviets will rely primarily on land-based aircraft to support amphibious operations. They might consider using their carriers, however, to support landings or other military operations in the Third World. [redacted]

We think that air assaults probably will play an increasingly important role in Soviet amphibious operations. [redacted]

[redacted] Soviet Navy is attempting to improve this capability by developing an assault version of the Helix helicopter, known as the Helix-B, and that the impetus for its development probably was an anticipated need to conduct intervention operations. [redacted]

[redacted] the Helix is approximately the same size as the Hormone KA-25 helicopter and could be carried on the Kiev, Moskva, and Rogov classes. [redacted]

Impact on Mission Capabilities

General War

In both writings and exercises, the Soviet Navy has demonstrated its appreciation of the complexity of amphibious operations. Before 1980, however, this understanding apparently had not been translated into

an appropriate force structure. We believe the naval infantry was too lightly equipped for landings against even moderate opposition or for sustained operations ashore. Particularly in the western fleets, the deficiency in organic fire support rendered it vulnerable to fire from well-prepared defensive positions during the assault phase of a landing. Now the Soviets are in the process of bringing their amphibious capabilities more into line with wartime mission requirements. [redacted]

The changes in the naval infantry and in the organization of exercises have improved the Soviets' ability to conduct landings close to the Soviet Union. They can now:

- Use the speed advantage of ACVs to carry the initial assault wave ashore quickly and gain the initiative at the beachhead. By delivering their cargo directly ashore, the ACVs can reduce congestion, allowing faster buildup of forces.

- Improve organic fire support and maneuverability to sustain the momentum gained in the first assault wave and overcome close-in defensive positions.

- Employ ground forces in the assault to increase firepower against strongly defended targets.

- Use merchant ships more effectively to speed up landing reinforcements and expanding the beachhead. [redacted]

In addition to its improved capabilities to conduct larger landings, the naval infantry has also enhanced its ability to conduct battalion-size and smaller landings. With the acquisition of more organic fire support, we believe that it now has the assets to allocate to smaller landings, while maintaining a capability for regimental or larger operations, particularly if motorized rifle troops are integrated into the assault force of the larger landing. Preparing ground force units for an active role in the initial assault along with the naval infantry should enhance the Soviets' flexibility in tailoring forces to a broader range of scenarios involving amphibious operations. [redacted]

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Warsaw Pact Forces Trained in Amphibious Warfare

Warsaw Pact forces other than the Soviet naval infantry are trained in amphibious warfare. According to exercises and writings, Soviet ground forces will participate in landings along the periphery of the USSR. At least one motorized rifle regiment (MRR) has an amphibious assault role in the Caspian Sea Flotilla area. (Imagery indicates that a second MRR may also be acquiring an amphibious assault capability.)

Nevertheless, the Soviets have yet to resolve the problem of inadequate assault lift. We believe the loss of a few of their assault ships during wartime could significantly impair their ability to carry out landings. On the basis of analysis of exercises, we believe they will use merchant ships to transport reinforcements, but most of these ships are not designed to bring amphibious forces close to shore and conduct rapid unloading, as are Soviet assault ships.

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Polish and East German forces would take part in at least some wartime landings in the Baltic. Although Bulgaria and Romania have small army units trained in amphibious operations, we are not sure how they would be used in a war with NATO.

We have identified army units trained in amphibious warfare through their participation in exercises, from imagery, and emigre reporting. Our analysis indicates that the following units could participate in Warsaw Pact amphibious operations during a war with the West:

Country	Unit Designation	Remarks
Soviet Union	131st Motorized Rifle Division (MRD)	
	3rd Guards Motorized Rifle Division (GMRD)	
	135th/140th Motorized Rifle Regiment (MRR), unidentified MRD	Located near Baku. One or both of these regiments might conduct landings along the Caspian Sea coast of Iran.
Poland	7th Sea Landing Division	Wartime strength is approximately 6,000 men.
East Germany	28th/29th Motorized Rifle Regiment (MRR)	The status of this force is unclear. The 29th MRR has rejoined the 8th MRD inland. The 28th MRR may assume the amphibious role.
Bulgaria	Unknown	Two to three battalions totaling 800 to 1,200 men.
Romania	Unknown	One battalion of 400 men.

Intervention in the Third World

By improving the naval infantry's combat potential for wartime operations, the Soviets have also bolstered its potential effectiveness for intervention in the Third World. However, we believe that the naval infantry now could be used to advance or protect Soviet interests in the Third World only against little or no organized opposition. Nonetheless, developments in amphibious forces since 1979 indicate to us that the Soviets are trying to overcome inadequacies—in fire support, air support, assault lift, and tactics—which have limited the naval infantry's potential effectiveness against more substantial opposition.

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Inadequate Fire Support Organic to the Naval Infantry. The Soviets have increased the naval infantry's firepower and maneuverability with additional tanks, artillery, and APCs. Further, the naval infantry has developed new tactics to take advantage of their improved fire-support capabilities. Although we believe these enhanced capabilities probably were developed primarily for operations close to the Soviet Union, they are applicable to landings in the Third World. (The tactics and forces used in an amphibious operation are tailored to a specific situation, but the basic guidelines are essentially the same no matter where the assault.) Despite improvements, we believe the naval infantry's effectiveness against organized opposition remains modest.

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Inability To Assure Air Support in Areas Beyond the Range of Aircraft Based in the Soviet Union. The Soviets deploy surveillance, antisubmarine warfare, and strike aircraft to several Third World countries. Basing combat aircraft within reach of a potential landing site in the Third World, however, could be hampered by the wide dispersion of available airfields,

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difficulty in securing overflight permission, and the fragility of political relations with the host governments. Participation by the Kiev, Leningrad, and Rogov in ZAPAD-81, and development of the Helix-B suggest that the Soviets are exploring concepts to overcome these restrictions by providing ship-based air support for amphibious operations in areas distant from the USSR. On the basis of our understanding of Soviet wartime planning, we do not expect that the Kiev- or Moskva-class ships will support amphibious operations during a general war and would not train for this mission. Further, we believe that the Soviets could not justify developing a unique, shipborne assault helicopter because of the limited number that could be employed in a landing near the Soviet Union during wartime.⁹ It seems to us, therefore, that both the association of these ships with ZAPAD-81 and development of the Helix-B signal the Soviets' consideration of the problems involved in providing air support for landings in the Third World. [redacted]

Although the Kiev-class carriers currently could support distant intervention, shortcomings of the Yak-38 Forger vertical takeoff and landing (VTOL) aircraft would preclude operations against more than very modest opposition. The recent appearance of an upgraded version of the Forger suggests the Soviets are trying to provide better air support. In addition, the Soviets have explored the concept of modifying merchant ships to carry aircraft. Nevertheless, we do not believe the Soviet Navy will be able to provide effective air support for intervention operations in the Third World until it achieves a competent level of performance with the new CTOL carrier—probably not until the mid-to-late 1990s. [redacted]

Insufficient Assault Lift Capability for Large Operations Within Any One Fleet. A Soviet assault in the Third World against moderate-to-heavy opposition, in our estimation, would require more amphibious ships than are now available in any one fleet. During ZAPAD-81, the Soviet Navy displayed an ability to

⁹ The number and type of ships that would participate in wartime landings could support a total of about 50 helicopters—probably too small a number to produce on a cost-effective basis. An Ivan Rogov LPD carries five to six helicopters; moreover, we project production of an LPH/LHA that could carry about 20 assault helicopters. During an intervention operation, an aircraft carrier could carry a large number of these helicopters by reducing its complement of other aircraft. [redacted]

assemble forces from all four fleets for an amphibious operation. An effort of comparable size would probably be required to intervene successfully against the better armed Third World countries. ZAPAD-81, however, illustrated the considerable amount of time that would be needed to assemble such a large force and prepare it for action. Naval participants from outside Baltic Fleet waters took about seven weeks to transit to the Baltic and conduct training for the landing. [redacted]

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Lack of Experience Conducting Landings Outside the Soviet Union. The exercises conducted in South Yemen, Syria, and Vietnam exposed the naval infantry to environmental and tactical conditions that it does not encounter during exercises in home waters. [redacted]

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The Soviets' efforts to address these problems probably represent their initial steps to provide adequate forces for effective amphibious operations in distant areas. Although the connection is tentative, we envision no other scenario that satisfactorily explains much of the activity by Soviet amphibious forces that has occurred since 1980. [redacted]

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Analysis of the Soviets' exercises and writings indicates that they test and evaluate new tactical concepts before incorporating them into their military doctrine. Their intention to develop the Navy's intervention capability against more than limited opposition would become more clearly evident from such measures as:

- Additional amphibious exercises in friendly Third World countries.
- Additional participation by the Kiev and Moskva with the Forger and helicopter gunships in amphibious exercises.
- Discussion of distant landing operations in Soviet writings.
- Airborne and air assault training by the naval infantry utilizing the Helix-B.
- Deployment of Ivan Rogov-class ships with the Helix-B aboard.
- Training by naval infantry with Forger aircraft providing close air support.

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- Conversion of the Moskva to an amphibious helicopter assault (LPH) capability to test concepts for large-scale helicopter operations in landings before investing in production of a new ship.
- Substantial expansion of the naval infantry's organic logistic and engineer elements to support extended operations ashore. [redacted]

Since the ZAPAD-81 exercise, we have evidence that the Soviet Navy has undertaken two of these measures. It has conducted a highly publicized exercise with the Vietnamese in 1984. In addition, articles analyzing the Falklands naval campaign have appeared in the Navy's professional journal, suggesting that there is continuing interest within the Navy on the feasibility of large-scale distant operations. [redacted]

We believe that the slow pace and narrow scope of the Soviets' amphibious activity over the last four years indicate they have adopted an incremental approach to developing an effective intervention capability. Furthermore, we do not believe that the naval infantry forces aboard currently deployed amphibious ships are adequate to provide more than a token response during a crisis. These units, along with the security troops stationed at Dahlak Island and Cam Ranh Bay, would require substantial reinforcement to conduct even limited offensive operations. These units are capable of providing symbolic support for Soviet clients in the Third World during periods of tension—evidenced most recently in Vietnam and Seychelles. [redacted]

Deficiencies in the Force

Evidence from [redacted] Soviet writings has indicated serious deficiencies in the Soviets' performance during amphibious exercises and training ashore since the 1970s. Despite the improvements we have noted during the last four years, our analysis of recent exercises and training maneuvers discloses persistent problems:

- Our understanding of Soviet unclassified writings suggests that the command system for amphibious operations remains overly structured, particularly in the relationship between landing troop and naval force commanders. Observations of exercises also suggest serious problems remain in coordinating the movement of assault ships during the landing.

- The naval infantry has shown little experience transferring supplies from the beachhead to units deployed inland. We believe the naval infantry would function during wartime as beachmaster for supplies going to ground forces involved in the landing. However, almost all amphibious exercises end after follow-on forces land; troops, with their equipment, reembark on their ships soon after they complete the landing.

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- We have observed limited movement of follow-on troops through the assault force for offensive operations beyond the beachhead. There have been no examples in exercises of the naval infantry practicing the transition from assault to offensive ground operations, as probably would be required during intervention.

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- The brigades and division have practiced only limited maneuver training ashore and may be poorly prepared for sustained ground operations. [redacted]

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We expect that the Soviets will eventually overcome these deficiencies. Until they do, however, we believe that the naval infantry's effectiveness in wartime landings or as an intervention force will remain modest. [redacted]

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Outlook

We think that the primary mission of the naval infantry will continue to be the conduct of amphibious landings near the Soviet Union in support of wartime combined-arms operations. Secondary assignments, such as the protection of Soviet naval bases and important coastal areas, probably will also continue. Except during crises in peacetime—when the Soviets probably would augment their amphibious presence outside home waters—we expect that Soviet amphibious forces deployed to distant areas will remain at or near current levels. We think that, gradually over the next 15 to 20 years, the Soviet Navy could develop the capacity—using the new carrier—to intervene effectively in most Third World countries, provided there is no opposition from US or NATO forces. [redacted]

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We estimate that by the early 1990s active naval infantry units will have a wartime strength of at least 20,000 men, but the Soviets may have plans to create additional units in the event of a war. During peacetime, however, we do not expect the Soviets will form additional brigades or divisions that are comparable in manning and activity levels to those already in the force, and the existing units will continue to be manned at less than full strength. The low priority that the naval infantry apparently has in the Navy's budget and manpower constraints will work to restrict major expansion of the naval infantry. [redacted]

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If the activity at Serebryanskiy represents the formation of a mobilization base or a cadre brigade in the Northern Fleet, we believe the Soviets probably will form similar units in the Baltic and Black Sea Fleets. At current manning levels, the naval infantry would expand by approximately 9,000 men with the activation of three new brigades. If additional amphibious forces are needed on short notice, the Soviets could assign a naval infantry role to motorized rifle units beyond those that have already received some training for amphibious operations. [redacted]

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We do expect that further growth will occur within the existing structure. The Soviets, for example, might increase the number of artillery battalions to form a regiment for supporting brigade operations. In any event, they are likely to put the inventory of weapons in their fire-support units on a par with those in the Army by, for example, building up their artillery battalion to 24 self-propelled howitzers rather than 18. [redacted]

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Trends in training and the increasing use of naval infantry in the Western fleets as part of airborne assault forces during amphibious exercises indicate a greater emphasis on using naval infantry in various types of airborne operations. [redacted]

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there were no battalions specifically designated for airborne assaults, but 10 to 15 percent of the infantrymen were jump-qualified. As the need arose, airborne-trained troops would be pulled from the rifle battalions to form an assault force. Nevertheless, the complexity of airborne training may eventually lead the Soviets to designate one of the four battalions as [redacted]

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an airborne unit or to create a fifth battalion for this role. [redacted]

We expect that the naval infantry will continue the current pace of modernizing its combat equipment. New equipment designed especially for amphibious warfare might be acquired, but, because the naval infantry is relatively small, the more likely possibility is that weapons that also could be used by Soviet ground forces would be acquired. For example, we expect T-54/55 tanks currently held by the naval infantry to be replaced by more modern T-72s, as was suggested by their presence during the Baltic Fleet's 1983 summer exercise and in Soviet television news reports showing naval infantrymen operating with T-72s. If, as we expect, air assault operations play a larger role in amphibious assaults, the naval infantry probably would acquire weapons already in the Soviet arsenal that are designed for airborne delivery, such as the BMD. [redacted]

We estimate that the number of Soviet amphibious ships will decline by the end of the century, but lift capacity will be enhanced. We believe the trend toward fewer but larger, more capable ships will continue, and that by the mid-1990s the Soviet Navy will introduce an amphibious helicopter assault ship and two new classes of landing ships. We also expect the Soviets will continue to devote significant effort to ACVs, and project that three new classes will be in production by the mid-1990s. Nevertheless, we do not believe the Soviets will completely close the gap between lift capacity and requirements. [redacted]

Commercial cargo ships will continue to play a key role in providing lift for follow-on units in amphibious landings. Until now, the Soviet Navy's experience with RO/ROs in amphibious landings has been limited, but Soviet open literature indicates that significant numbers will be produced. The Soviets have acquired railroad ferries and merchant ships, such as the Norilsk-class RO/RO that carries its own ACVs, which could be pressed into service to supplement wartime assault lift. Other advanced designs such as the roll-on/float-off (RO/FLO) cargo ship offer additional capabilities, and we may begin to see them participating in amphibious exercises. [redacted]

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Status of Naval Infantry Units on the Kola Peninsula

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Appendix B

Probable New Naval Infantry Unit Established in the Northern Fleet

The Soviets are forming in the Northern Fleet area what we believe is a new naval infantry unit, the first to join the Soviet naval infantry since 1972. The amount, type, and organization of its equipment indicate it will probably be a brigade. The brigade is not yet operational because its equipment set is incomplete, it has no associated equipment storage sheds, barracks, or training facilities, and it is currently manned by no more than a small caretaker force. As a result, we believe this unit poses no immediate military threat; past Soviet practice demonstrates that it could be two to five years before it becomes operational.

elements of a new ground forces unit have been present at Serebryanskiy in the Leningrad Military District—100 kilometers (km) east of Murmansk on the Kola Peninsula—since the fall of 1983. Because of the unusual location of this unit, its incomplete structure, and an organization that does not match any Soviet ground force unit, we have been faced with conflicting evidence concerning the unit's final structure and mission:

- The unit's structure is most similar to a Soviet naval infantry brigade. Brigade characteristics include four infantry battalions, a self-propelled 122-mm howitzer battalion, an MRL battalion, an antitank battalion, and two tank battalions. Nevertheless, to mirror the Soviets' three operational naval infantry brigades, the Serebryanskiy unit would require an air defense battalion, an engineer battalion, and a Vaselik mortar battery. Because the structure of some subunits is inconsistent with that found in the existing naval infantry brigades, some equipment changes probably will also occur. For example, the mixed tank battalion probably will convert to a medium tank battalion of 40 T-55s, and its PT-76s probably will be reassigned to the light tank and reconnaissance battalions.
- The unit's structure is similar to that of the old naval infantry regiment, but such regiments lacked artillery, had a single MRL battery, and had only

one tank battalion. In addition, because the Soviets converted all three of their naval infantry regiments to brigades between 1980 and 1982, we doubt that they would organize a new naval infantry unit using the old regimental structure.

- The unit's equipment also resembles that found with a ground force motorized rifle regiment, but the presence of a second tank battalion and a multiple rocket launcher battalion are not consistent with motorized rifle regiment structure. Equipment, such as wheeled BTR-60 armored personnel carriers and self-propelled artillery, while typical of motorized rifle regiments in general, are not found with such regiments in the Leningrad Military District.

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Although unit elements have been present at Serebryanskiy for more than a year, the Soviets have not constructed the types of permanent facilities typical of operational units. They have not built equipment storage sheds, barracks, administrative buildings, or a messhall. There are no obstacle courses, physical training areas, driving or firing ranges, nor is there any evidence—such as ground scarring—that the Soviets intend to build such facilities in the near future. They did build two small fenced general storage areas, but they removed the construction workers' tent camp upon completion of construction. We believe this indicates a lack of plans for further construction.

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A civilian apartment complex, which probably houses employees of the nearby Serebryanskiy and Bolshoy Padun hydroelectric power plants, contains the only housing within 15 km of the unit. The complex is located 100 meters south of the vehicle park and is separated from it by a small stream. One of the nine apartment buildings in this complex is fenced, and a path leads from the housing complex to the stream, which the Soviets have spanned with a small footbridge opposite the vehicle park. An old vehicle bridge

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over the stream has collapsed, and no attempt has been made since the unit's arrival to repair or replace the old bridge. [redacted]

The absence of typical military facilities or any obvious program for their construction indicates that the Serebryanskiy unit is not an operational naval infantry brigade, which is typically manned at 70 to 80 percent of its wartime strength. We believe the brigade is currently manned by only a small caretaker force housed in the fenced apartment building. Nevertheless, the Soviets have formed new units by first deploying equipment and later adding troops and facilities. Past Soviet practice indicates conversion of the Serebryanskiy unit to an operational brigade could take from two to five years, depending on the priority assigned to the project. [redacted]

Serebryanskiy has several major disadvantages as a location for a naval infantry unit. It is too far east of Murmansk to allow a unit to move rapidly into positions to take part in operations against Finland and Norway. Furthermore, the nearest naval facility is Dal'niye Zelentsy—a submarine dispersal base 15 km to the north—which has neither the capability to load amphibious ships from its piers nor a beach suitable for direct equipment loading. We see no evidence that the Soviets are attempting to make Dal'niye Zelentsy suitable for use by naval infantry, and we believe that it could take several years to do so. [redacted]

Furthermore, the Soviets do not have enough amphibious ships in the Northern Fleet to lift two naval infantry brigades simultaneously. At best, lift assets are sufficient to transport the existing naval infantry brigade located at Pechenga, 200 km west-northwest of Serebryanskiy. To simultaneously transport a second brigade, the Soviets would have to make extensive use of civilian shipping, which is not designed to unload troops and equipment in the initial phase of an assault landing. [redacted]

The Serebryanskiy unit's incomplete structure, low manning, and poor location make it difficult to assess its eventual peacetime status and wartime mission. In addition, the Soviets have never formed a naval infantry unit in such an unusual manner or at such a remote location. Despite these apparent anomalies,

the unit's structure more closely resembles that of a naval infantry brigade than a ground forces brigade or regiment. We have examined several options for the eventual status of the unit and believe the most likely are that it could eventually be:

- An unmanned reserve naval infantry brigade, much like a mobilization base in the regular ground forces. However, much of the work required to make the facility adequate for supporting an operational or cadre brigade would be necessary to maintain an unmanned unit. For example, housing and other facilities for the personnel taking care of the equipment would have to be built.
- A cadre naval infantry brigade. This would be unprecedented for Soviet naval infantry and would require almost the same construction program as for conversion into an active brigade.
- An equipment set for the reconstitution of the Northern Fleet's Pechenga brigade during wartime. This would be unprecedented both for Soviet ground forces in general and for Soviet naval infantry in particular, but it would explain the absence of housing and training facilities.
- The second operational naval infantry brigade in the Northern Fleet. Historically all naval infantry units have been operational. Conversion to operational status will require a high level of peacetime manning, if the unit is to resemble other naval infantry brigades, and will require extensive construction of facilities both at Serebryanskiy and at Dal'niye Zelentsy. A military takeover of the civilian housing complex at Serebryanskiy would partially simplify this procedure. [redacted]

Regardless of its eventual composition and mission, the unit is not yet operational and is not a military threat to the Nordic Region. We have not identified similar units in other fleet areas, but this may reflect a lack of data identifying their location rather than an absence of such units. [redacted]

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Appendix C**Naval Infantry Units—Summary Data**

Fleet	Unit Size	Location	Training Facilities				Remarks
			Knyazev Trainer	Jump Tower	LST Mockup	Helicopter Mockup	
Northern	Brigade	Pechenga Naval Infantry Installation [redacted]	Yes	Yes	Yes	No	The Northern Sea Fleet naval infantry regiment at Pechenga was established by 1966, apparently by reclassifying one of the motorized rifle regiments in the 45th MRD as a naval infantry unit. In wartime, it would be directed against coastal targets in northern Norway.
Baltic	Brigade	Baltiysk Naval Infantry Installation [redacted]	Yes	Yes	Yes	Yes	The Baltic Fleet naval infantry regiment at Baltiysk was formed by 1965, the first naval infantry unit to be identified after the force's reactivation. It is tasked to operate against NATO forces in the Baltic Sea area, probably in conjunction with East German and Polish amphibious units.
Black Sea	Brigade	Sevastopol' Naval Infantry Installation [redacted]	Yes	Yes	Yes	Yes	The Black Sea Fleet naval infantry regiment at Sevastopol' was identified by 1967, apparently the last of the Western Fleet units to be activated. This unit would be used, probably with Bulgarian assistance, against the Turkish straits in wartime. During peacetime, this unit regularly provides personnel for deployments with the Soviet naval squadrons in the eastern Mediterranean Sea and the Indian Ocean.
Pacific	Division	Slavyanka AL-2 [redacted]	No	No	Yes	No	There was evidence for a naval infantry unit subordinate to the Pacific Fleet by 1966, but it was not identified as a division until after 1970. The Pacific Fleet division is deployed at two installations in the Far East Military District. Two naval infantry regiments and the naval tank regiment are garrisoned at Vladivostok while the third naval infantry regiment and most divisional support units are in Slavyanka. In wartime, the division would deploy to seize chokepoints that restrict the movements of the Pacific Fleet.
		Slavyanka Training Area [redacted]	Yes	Yes	No	No	

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